**NAME**

AFM—Adobe font metrics file format

**DESCRIPTION**

AFM files are a standard interchange format for communicating Type 1 font metric information to people and programs. The format is ASCII encoded (for both human and machine readability), machine independent, extensible, simple to parse, and simple to generate. AFM files are available for all of Adobe Systems' POSTSCRIPT font programs.

While somewhat verbose, the format is intended to be easily parsed, with the ability for applications to quickly skip over items that are not of interest. It should be possible to create simple line-oriented parsing programs, or tools based on awk(1) or sed(1).

Each AFM file contains the information for only one font face. The file begins with global information about the font, followed by sections with character metrics. The file format is line-oriented, each line beginning with a property (key) name, followed by the values for that property. The general idea is to give key-value tuples.

The format is:

Key [value value ...]

Key names are case-sensitive. All keys beginning with a capital letter are reserved by Adobe Systems. The standard keys are detailed below, but other keys should be allowed and safely ignored by programs not recognizing them. All standard keys begin with a capital letter. User-defined nonstandard entries should begin with a lowercase letter.

The file begins with the line:

StartFontMetrics *version*

The version described here is 1.0. The last line of the file is:

EndFontMetrics

The following global font keys are defined. Many of them are defined as in the top level or FontInfo subdictionary of a POSTSCRIPT font dictionary. All numeric values are in the (1000 unit per em) character coordinate system.

**FontName** *string* the name of the font as presented to the findfont operator.

**FullName** *string* the "print name" of the font.

**FamilyName** *string* the font family name.

**Weight** *string* the weight of the font.

**ItalicAngle** *real* the angle (in degrees counter-clockwise from the vertical) of the dominant staffs of the font.

**IsFixedPitch** *boolean* indicates monospaced (typewriter) fonts.

**FontBBox** *llx lly urx ury* four integers giving the lower left corner and the upper right corner of the font bounding box. **Note:** the bounding box given here is that of the flattened paths, not of the Bezier curve descriptions.

**UnderlinePosition** *number*
the position (from the baseline) to place an underline.

**UnderlineThickness** *number*
thickness of an underline stroke.

**Version** *string* font version identifier.

**Notice** *string* font name trademark or copyright notice.

**Comment** *string* comment strings may be ignored.

**EncodingScheme** *string* a string indicating the default encoding vector for this font. The most common one is AdobeStandardEncoding. Special fonts may simply state "FontSpecific".

In the future, other schemes may be employed.

**CapHeight** *number* top of capital H.

**XHeight** *number* top of lower case x.

**Ascender** *number* top of lower case d.

**Descender** *number* bottom of lower case p.

The individual character metrics are surrounded with the lines StartCharMetrics and EndCharMetrics and consist of a list of keys and values separated by semicolons. The characters are sorted (numeric ascending) by character code. Unencoded characters follow all the encoded ones and are distinguished by having character code −1. Each character gets one line of description. Standard keys are:

**C** *number* decimal value of default character code (−1 if unencoded).

**WX** *width-x* character width in *x* (y is 0).

**W** *width-x width-y* character width vector.

**N** *name* character name.

**B** *llx lly urx ury* the character bounding box.

**L** *successor ligature* a ligature sequence; The current character may join with the character named *successor* to form the character named *ligature*. Note that characters may have more than one such entry.

Most western language fonts have WX rather than W entries. Note that keys are one letter for brevity. Here, too, the set is extensible, with unknown entries ignored. (This leaves room for the addition of new information, for example.) A future revision of this format will have a specification for kerning information.

**FILES**

XPSLIBDIRX/*.afm AFM files in the TRANSCRIPT distribution

**SEE ALSO**

transcript(1), psfonts(1), awk(1), sed(1)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

capcomm—TRANSCRIPT Appletalk communication filter for POSTSCRIPT printers

**SYNOPSIS**

**XPSLIBDIRX/pscomm**

**DESCRIPTION**

This is the low-level TRANSCRIPT Appletalk communication filter for use by the 4.2BSD line printer spooling system through the printer description file /etc/printcap. It uses the CAP libraries to communicate with printers connected to Appletalk networks. It is called from the *psint.sh* shell script. This script uses argv[0] (the name it was invoked under) to determine which action to take, which may involve invoking a translation filter or management filter before invoking the communications filter. The options are as specified in the *4.2BSD Line Printer Spooler Manual.* The program *pscomm* is the lowest level filter. It manages communication with the printer, error handling, status reporting, etc.

**ENVIRONMENT**

VERBOSELOG=*number*
: print verbose log messages

**FILES**

| | |
|---|---|
| *printer*.acct | printer accounting file |
| *printer*-log | printer log file |
| status | printer status file (in the spool directory), shared by lpd(8) and pscomm |

**SEE ALSO**

transcript(1), lpr(1), lpc(8), lpd(8), printcap(5), psint(8)
*4.2BSD Line Printer Spooler Manual*

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

enscript—convert text files to POSTSCRIPT language format for printing

**SYNOPSIS**

**enscript** [ **-1BcGghlmoqRr2** ] [ **-v***columns* ] [ **-L***lines* ] [ **-f***bfont* ] [ **-F***hfont* ] [ **-b***header* ] [ **-p***out* ] [ **-s***size* ] [ **-S***feature=value* ] [ **-T***characters* ] [ *spoolopts* ] [ *files* ]

**DESCRIPTION**

*enscript* reads in plain text files, converts them to POSTSCRIPT language, and spools them for printing on a POSTSCRIPT printer. Fonts, headings, limited formatting options, and spooling options may be specified.

For example:

enscript -Paleph boring.txt

prints a copy of the file called boring.txt on the printer called aleph.

enscript -2r boring.c

prints a two-up landscape listing of the file called boring.c on the default printer (see below).

Font specifications have two parts: a font name as known to the POSTSCRIPT printer (e.g., Times-Roman, Times-BoldItalic, Helvetica, Courier), and a point size (1 point=1/72 inch; 8 point is a good small point size). So Courier-Bold8 is 8 point Courier Bold, Helvetica12 is 12 point Helvetica.

The environment variable ENSCRIPT may be used to specify defaults. The value of ENSCRIPT is parsed as a string of arguments *before* the arguments that appear on the command line. For example "ENSCRIPT=´-fTimes-Roman8´" sets the default body font to 8 point Times Roman.

The possible options are:

**-1** sets in 1 column. One column is the default.

**-2** sets in 2 columns.

**-v***columns*
output is set in *columns* number of columns. This is an extension of the **-2** switch.

**-r** rotates the output 90 degrees (landscape mode). This is good for output that requires a wide page or for program listings when used in conjunction with **-2.**
" **enscript -2r files** " is a nice way to get program listings.

**-R** don’t rotate, also known as portrait mode (the default).

**-G** prints in gaudy mode: causes page headings, dates, and page numbers to be printed in a flashy style, at some slight performance expense.

**-l** simulates a line printer: make pages 66 lines long and omit headers.

**-B** omits page headings.

**-c** truncates ("cuts") lines that are longer than the page width. Normally, long lines are wrapped around to the following line on the page.

**-b***header*
sets the string to be used for page headings to *header*. The default header is constructed from the file name, its last modification date, and a page number. You can include elements from the default header in your header by specifying %f for file name, %d for date, or %n for page number. If you need a ´%´ character in the header, it must be specified by "%%".

**-L***lines* set the maximum number of lines to output on a page. *Enscript* usually computes how many lines to put on a page based on point size, and may put fewer lines per page than requested by *lines*.

**-f***bfont* sets the font to be used for the body of each page. The default is Courier10 unless two-column rotated mode is used, in which case the default is Courier7.

**-F***hfont* sets the font to be used for page headings. The default is Courier-Bold10.

**-p***out* causes the POSTSCRIPT file to be written to the named file rather than being spooled for printing. As a special case, **-p** will send the resultingPOSTSCRIPT language code to the standard output.

**-g** causes the fact that a file is garbage to be ignored. Normally, any file with more than a small number of nonprinting characters is suspected of being garbage and not printed; this option means "print it anyway."

**-o** if *enscript* cannot find characters in a font, the missing characters are listed.

**-q** causes *enscript* to be quiet about what it is doing. *Enscript* won't report about pages, destination, omitted characters, etc. Fatal errors are still reported to the standard error output.

**-h** suppresses printing of the job burst page.

**-s***size* chooses a paper size for printing. This size must match one of the ∗PaperSize keywords in the POSTSCRIPT Printer Description file, such as Letter, Legal, or A4.

**-S***feature=value*
chooses a printer feature, such as manual feed or duplex. If *value* is omitted, a value of true is assumed. These features must match a keyword in the POSTSCRIPT Printer Description file. For example, "enscript -S ManualFeed" turns on manual feed.

**-T***characters*
sets the width of a tab to be *characters*
number of characters. This is especially useful to get columns to line up correctly when printing with a variable width font.

In BSD Unix systems, the following spooler options are also recognized:

**-P***printer*
causes the output to be sent to the named printer unless **-p***file* is specified. In that case, the printer name is used to access the printer's POSTSCRIPT Printer Description file for information, and the output is written to the specified file instead of being spooled for printing.

**-#***n* causes *n* copies of the output to be produced. The default is one.

**-m** causes the printer daemon to send mail upon job completion.

**-J***name* sets the job name for use on the burst page. Otherwise, the name of the first input file will be used.

**-C***class* set the job classification for use on the burst page.

In System V Unix systems, the following spooler options are also recognized:

**-t***title* sets job title for use on the burst page.

**-d***dest* causes the output to be sent to the named printer or printer class unless **-p***file* is specified. In that case, the printer name is used to access the printer's POSTSCRIPT Printer Description file for information, and the output is written to the specified file instead of being spooled for printing.

**-n***n* causes *n* copies of the output to be produced. The default is one.

**-w** or **-m**
causes the printer daemon to write or send mail upon job completion.

**ENVIRONMENT**

ENSCRIPT
string of options to be used by *enscript*

PSLIBDIR
path name of a directory to use instead of XPSLIBDIRX for *enscript* prologue and font metric files

PSTEMPDIR
path name of a temporary directory to use instead of XPSTEMPDIRX for temporary files.

PRINTER (BSD)
the name of a printer (as in the **-P** option) for lpr to use. If no **-P** option is specified, lpr will use this printer. If neither **-P** nor PRINTER is set, *enscript* will spool to a printer named "PostScript".

LPDEST (System V)
the name of a printer (as in the **-d** option) for lp to use. If no **-d** option is specified, lp will use this printer. If neither **-d** nor LPDEST is set, *enscript* will spool to a printer class named "PostScript".

**FILES**

| | |
|---|---|
| XPSLIBDIRX/*.afm | font metrics files |
| XPSLIBDIRX/enscript.pro | prologue for *enscript* files |

**SEE ALSO**

pr(1), transcript(1), psfonts(1), ps630(1)
BSD Unix systems: lpr(1), lpq(1), lprm(1)
System V Unix systems: lp(1), cancel(1), lpstat(1)

**AUTHOR**

Adobe Systems Incorporated
Gaudy mode by Guy Riddle of AT&T Bell Laboratories

**BUGS**

*Enscript* generates temporary files which are spooled for printing. The temporary file names are used by the spooling software (e.g., lpq ), rather than the symbolic job name passed to lpr .

There are too many options.

**NOTES**

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Times and Helvetica are registered trademarks of Linotype.
Unix is a trademark of AT&T Bell Laboratories.

**NAME**

fpcomm—TRANSCRIPT Ethernet communication filter for communicating with POSTSCRIPT printers via FastPort printer servers

**SYNOPSIS**

**XPSLIBDIRX/fpcomm**

**DESCRIPTION**

This is the low-level TRANSCRIPT Ethernet communication filter for use by the System V or BSD line printer spooling system for communicating with a POSTSCRIPT printer via a MiLAN FastPort print server. It is called from the printer interface script for the printer. There are a number of options for fpcomm that get set from the configuration file in the spool directory for the printer. The syntax for the .fpconfig file is as follows (any number of the entries can appear.)

hostname *name*
: specifies the IP *name* for the FastPort.

serial
: sends to the serial port.

parallel
: sends to the parallel port.

ctrld
: sends a control D before and after the job—this initializes the POSTSCRIPT printer.

formfeed
: sends a formfeed after the job.

dobanner
: looks for file .banner in the current working directory and submits it before the job.

startfile *file*
: send *file* before the job—this can be used to download an error handler, for example.

endfile *file*
: sends *file* after the job.

startstring *string*
: sends *string* before the job. This can be used to set printer modes—i.e., send escape sequences.

endstring *string*
: sends *string* after the job—resets the printer through escape sequences to a particular mode)

P_CLASS
: list of names of parallel printers—print on the first available.

S_CLASS
: List of names of serial printers—print on the first available.

mail *username*
: sends mail to *username* with any errors or the destination printer name if P-CLASS or S-CLASS was used.

program *progname*
: executes *progname* for error messages or return messages.

errorfile *filename*
: stores any errors that occurred in *filename.*

syslog
: records error messages in syslog file.

If both startstring and startfile are set, startstring will be sent first followed by startfile. If both endfile and endstring are, endfile will be sent before endstring.

The syntax for escape in the start or stop strings is "M-", and the syntax for control is "Cˆ".

Using the .fpconfig file, you can set the printer mode, execute commands after printing, get notifications

regarding print jobs etc. If you do not want to place the .fpconfig file in the spool directory or if you want to call it by some other name, then you can use the PRINTER_CONFIG environment variable to specify the location of the configuration file.

**ENVIRONMENT**

PRINTER_CONFIG

location of the configuration file

**SEE ALSO**

transcript(1), lp(1), lpstat(1), lpsched(1M), lpadmin(1M), psinterface(8), psint(8)
*System V Line Printer Spooling Utilities*
*4.2BSD Line Printer Spooler Manual*

**AUTHOR**

MiLAN Technology Corporation

**NOTES**

**NAME**

lpcomm—TRANSCRIPT Centronix parallel communications filter for x86 hosts

**SYNOPSIS**

**XPSLIBDIRX/lpcomm**

**DESCRIPTION**

This is the low-level TRANSCRIPT Centronix parallel communication filter for use by the System V or BSD line printer spooling system on an x86 host. It is called from the printer interface script for the printer. The program *lpcomm* is the lowest level filter. It manages communication with the printer; since the parallel interface is one-directional, no status, error, or accounting reporting is supported. *lpcomm* will write a log of each job processed in the log file.

**ENVIRONMENT**

VERBOSELOG=*number*

Print verbose log messages

**FILES**

| | |
|---|---|
| *printer*-log | printer log file |

**SEE ALSO**

transcript(1), lp(1), lpstat(1), lpsched(1M), lpadmin(1M), psinterface(8), psint(8)
*System V Line Printer Spooling Utilities*
*4.2BSD Line Printer Spooler Manual*

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

POSTSCRIPT language—page description language

**DESCRIPTION**

The POSTSCRIPT page description language is a programming language with powerful graphics primitives for describing printed pages. A growing number of devices that print or display POSTSCRIPT language documents are available. POSTSCRIPT printers are available from a wide variety of printer manufacturers. The TRANSCRIPT package of UNIX software allows UNIX systems access to POSTSCRIPT printers.

The complete POSTSCRIPT language is described in the book:

*POSTSCRIPT Language Reference Manual, Second Edition*
by Adobe Systems Incorporated
published by Addison-Wesley Publishing Company
ISBN 0-201-18127-4, 764 pages, illustrated
Library of Congress: QA76.73.P67P67 1990 005.13’3-dc20

The reference manual provides a comprehensive presentation of of the language, its graphics, and its font facilities, including the precise semantics of every POSTSCRIPT language operator.

**SEE ALSO**

transcript(1), enscript(1)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

ppanel—Motif graphical user interface to TRANSSCRIPT

**SYNOPSIS**

**ppanel** [ **-P***printer* ] [ **-f***filter* ] [ *files* ]

**DESCRIPTION**

*ppanel* provides a graphical user interface to all the TRANSSCRIPT programs. It allows you to translate, manipulate, and print files, as well as save the output to another file, take advantage of POSTSCRIPT printers with fax capabilities, or preview documents if you have an appropriate POSTSCRIPT language document previewer.

The possible options are:

**-P***printer*
: the print panel comes up with *printer* selected from the list of printers. The default selection is the value of the PRINTER environment variable.

**-f***filter* selects *filter* from the list of filters. The default is the value of the TSFILTER environment variable, if set; if this variable isn't set, the default filter is "none".

**ENVIRONMENT**

PRINTER
: default printer

TSFILTER
: default filter

PREVIEWER
: path name for the POSTSCRIPT language document previewer

PSFAXDB
: location of the fax phone book

PSLIBDIR
: path name of the directory containing preview.info (and printer.list for System V)

**FILES**

| | |
|---|---|
| XPSLIBDIRX/preview.info | path name for the POSTSCRIPT language document previewer, which can be overridden by the PREVIEWER environment variable |
| XPSLIBDIRX/printer.list | list of available printers, for System V machines. |

**SEE ALSO**

transcript(1), enscript(1), ptroff(1), psroff(1), ps4014(1), psplot(1), ps630(1), pslpr(1), psnup(1), psfax(1), psdraft(1)
BSD Unix systems: lpr(1), lpq(1), lprm(1).
System V Unix systems: lp(1), cancel(1), lpstat(1).

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

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Unix is a trademark of AT&T Bell Laboratories.

**NAME**

ps4014—convert a Tektronix 4014 files to POSTSCRIPT language format

**SYNOPSIS**

**ps4014** [ **-RCNm** ] [ **-p***outfile* ] [ **-l***left,bottom* ] [ **-s***width,height* ] [ **-S***width* ] [ *file* ]

**DESCRIPTION**

*ps4014* reads in a Tektronix 4014–format file and converts it to POSTSCRIPT language format for printing on a POSTSCRIPT printer. If no *file* is specified, the standard input is used. The resulting POSTSCRIPT language file may be directed to the standard output or to a named file.

The possible options are:

**-p***outfile*
causes the POSTSCRIPT language file to be written to the named file rather than the standard output.

The following parameters affect the size, placement, and orientation of the image on the printed page. By default, the 4014 image is scaled to occupy nearly the whole page in a landscape orientation.

**-l***left,bottom*
specifies the location on the printed page of the bottom left corner of the converted raster image. The values *left* and *bottom* are the distances (in inches) from the bottom left corner of the printed page to the bottom left corner of the image.

**-s***width,height*
specifies the size of the converted raster image on the printed page. *Width* and *height* are the dimensions (in inches) of the resulting image on the printed page.

**-S***width* allows you to scale the image without distorting its shape. *Width* specifies the width (in inches) of the resulting image on the printed page. The height of the image is computed to maintain the same ratio of height to width on the output image as on the input raster-format file.

**-R** rotates the image 90 degrees on the page for portrait orientation. The default is landscape orientation.

The following parameters specify values for 4014 hardware options that affect the interpretation of 4014 commands.

**-C** causes a carriage return to move the pen position to the left margin but not down to the next line. By default, a carriage return command moves the pen down to the next line and over to the left margin.

**-N** causes line feed to move the pen position down to the next line but not to the left margin. By default, a line feed command moves the pen down to the next line and over to the left margin.

**-m** enables the "Margin 2" mode for the 4014.

**ENVIRONMENT**

PSLIBDIR
path name of a directory to use instead of XPSLIBDIRX for the *ps4014* prologue

**FILES**

XPSLIBDIRX/ps4014.pro default prologue file

**SEE ALSO**

plot(1), transcript(1), psplot(1)
Tektronix 4014 documentation

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

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Tektronix is a registered trademark of Tektronix, Inc.

**NAME**

ps630—convert Diablo 630 print files to POSTSCRIPT language format

**SYNOPSIS**

**ps630** [ **-f***bodyfont* ] [ **-F***boldfont* ] [ **-s***pitch* ] [ **-p***file* ] [ *files* ]

**DESCRIPTION**

*ps630* reads in *files* (Diablo 630–format print files) and converts them to POSTSCRIPT language format for printing on a POSTSCRIPT printer. If no *files* are specified, the standard input is used. By default, the POSTSCRIPT language program is sent to the standard output. *ps630* can convert nroff files generated with the **-Txerox** switch. Typewheel emulation information may be specified as options. Font specifications (for bold and regular) are POSTSCRIPT font names (e.g., Times-Roman, Times-Bold, Courier-Bold, Courier-BoldOblique). 10, 12, or 15 characters per inch may be selected.

The possible options are:

**-f***bodyfont*
: sets the font to be used for normal printing. The default is Courier.

**-F***boldfont*
: sets the font to be used for boldface. The default is Courier-Bold.

**-s***pitch* selects type size for printing (both the regular and bold fonts are scaled to this size). *Pitch* is in characters per inch and must be 10, 12, or 15. The default is 12.

**-p***file* causes the POSTSCRIPT language document to be written to the named file rather than the standard output.

**ENVIRONMENT**

PSLIBDIR
: path name of a directory to use instead of XPSLIBDIRX for the *ps630* prologue

**SEE ALSO**

transcript(1), enscript(1), nroff(1)
Diablo 630 documentation

**AUTHOR**

Adobe Systems Incorporated

**BUGS**

Some applications produce "bold" by double striking a character. This will not appear as bold when translated into the POSTSCRIPT language. Only the bold produced by issuing the proper Diablo command sequence (escape-O) will result in bold characters.

The output of *ps630* cannot be page-reversed.

Times-Roman and Helvetica are narrow fonts that may look squeezed if no adjustment of page width is made by the application.

The following Diablo 630 commands are not supported: print suppression, HY-Plot, extended character set, downloading print wheel information or program mode, page lengths other than 11 inches, paper feeder control, hammer energy control, remote diagnostic, backward printing control (note, however, that "reverse printing" is supported).

**NOTES**

**NAME**

pscat—convert C/A/T files to POSTSCRIPT language format

**SYNOPSIS**

**pscat** [ **-F***fonttable* ] [ **-i***prologuefile* ] [ **-l***paperlength* ] [ **-x***xoffset* ] [ **-y***yoffset* ] [ *file* ]

**DESCRIPTION**

*pscat* converts C/A/T format *file* (i.e., as produced by the original [o]troff (1)), to POSTSCRIPT language format on the standard output. If no *file* argument is given, the standard input is used. The average user will probably be happy using ptroff (1), but explicit use of *pscat* gives more control.

Page offset distances and the page length are specified by giving a fixed-point real number optionally followed by a units measure. For example, 1in means one inch, 15mm means fifteen millimeters. If no units are indicated, points (72 to the inch) are used. The options are:

**-F***fonttable*
: specifies a font correspondence table for use by the converter. (The default is usually Times.ct where the mounted fonts are: **R**=Times-Roman, **I**=Times-Italic, **B**=Times-Bold, and **S**=Symbol. Note that troff should be invoked with an appropriate **-F** switch and explicit ".fp" commands.)

**-i***prologuefile*
: specifies a file to be incorporated as the POSTSCRIPT language prologue, otherwise the default prologue will be used (see below).

**-l***pagelength*
: specifies the page length to use when splitting the C/A/T file into pages. The default is 11 inches. Units are described above.

**-x***xoffset*
: moves the output *xoffset* to the right on the paper. The default is 0. Units are described above.

**-y***yoffset*
: moves the output *yoffset* downward on the paper. The default is 0. Different versions of troff have different notions of where the top edge of the paper really is, so careful setting of the **-y** switch may be necessary. Units are described above.

**ENVIRONMENT**

PSLIBDIR
: path name of a directory to use instead of XPSLIBDIRX for *pscat* prologue and font metric files

**FILES**

| | |
|---|---|
| XTROFFFONTDIRX/*.ct | character correspondence tables (built by pscatmap (8)) mapping C/A/T codes to POSTSCRIPT language fonts and characters or other actions |
| XPSLIBDIRX/pscat.pro | default POSTSCRIPT language prologue |

**SEE ALSO**

transcript(1), ptroff(1), psfonts(1), pscatmap(8)
BSD Unix systems: troff(1).
System V Unix systems: otroff(1), *Documenter's Workbench*

**AUTHOR**

Adobe Systems Incorporated

**BUGS**

Because of the character mapping tables used, arbitrary use of the ".fp" troff directive will usually produce the wrong results. The family.head files that ptroff feeds to troff contain ".fp" commands appropriate for a given font family. Users must build and reference correct tables with pscatmap (8) for non-standard ".fp" combinations to work.

The mapping from the default troff fonts to Adobe's Times-Roman will not look good. POSTSCRIPT language font width tables (and ".fp" commands) should be used explicitly in troff.

*pscat* determines where page breaks occur by assuming that each page is exactly the specified length. There is no indication of page boundaries in the C/A/T file, so improper use of the **-l** option will lead to undesirable results. Some troff macro packages generate cutmarks at logical edges of the page which may or may not get imaged on a POSTSCRIPT printer. Careful use of the **-x** and **-y** options may help.

**NOTES**

**NAME**

pscatmap—build ptroff width tables from AFM files

**SYNOPSIS**

**XPSLIBDIRX/pscatmap** *mapfile*

**DESCRIPTION**

*pscatmap* builds correspondence tables and width tables so that documents produced with original [o]troff (1) can be translated into POSTSCRIPT language programs by pscat. *pscatmap* parses a human-readable mapping table and generates five output files— a family.ct file containing the character correspondence table for pscat, and four ft?? files, to be used as troff width tables. On most BSD systems, these files are C programs (ft*xx*.c) to be compiled into widths tables. On most System V systems, these files are the binary width tables themselves. Other systems may use ASCII font width tables.

The structure of the files is relatively easy to understand. If you want to create your own, the best thing to do is use an existing one as a template. Lines that begin with "%" are comments. Blank (empty) lines are ignored. Lines beginning with "@" are command lines. The following command lines are understood:

**@FAMILYNAME** *family*
where *family* is a single token. This specifies the base name for the generated .ct file.

**@FACENAMES** *rf if bf sf*
where *rf, if, bf,* and *sf,* are the two-letter troff face codes for the Roman (font 1), Italic (font 2), Bold (font 3) and Symbol (font 4) fonts, respectively. *pscatmap* will generate files with the names: ft*rf*[.c], ft*if*[.c], ft*bf*[.c], fts*f*[.c].

**@BEGINFONTS** starts the section that identifies which fonts will be a part of this mapping and defines short names for these fonts (to be used in a later section of the map file). @BEGINFONTS is followed by a sequence of lines of the form:
**shortname**=*fontname*

**@ENDFONTS** terminates this section.

**@BEGINMAP** begins the real correspondence description. What follows are a sequence of lines, each line describing a character action mapping. Each line represents one character. A line contains the troff character code, the troff face code (R, I, B, or S), the C/A/T character code, the character width, the character action, x and y offsets for position adjustments, the font and character code to map to, and a short text description of the font.

The best way to understand all this is to look at the map files already in the library and use them as examples. They have copious comments to help explain what they do.

**@ENDMAP** delimits the end of this section.

**@INCLUDE** *file* reads commands from the named *file* until it is exhausted, then switches back to the current input file. This command may appear in included files (that is, include files may be nested). This may be used to include the standard correspondence description, for example.

**ENVIRONMENT**

PSLIBDIR
path name of a directory to use instead of XPSLIBDIRX for AFM files

**FILES**

| | |
|---|---|
| XPSLIBDIRX/∗.afm | font metrics files |
| *family*.map | input mapping file |
| *family*.ct | generated correspondence table |

ft*xx*[.c] generated width files

**SEE ALSO**

pscat(1), ptroff(1), transcript(1)
BSD: troff(1).
System V: otroff(1), *Documenter's Workbench*.

**AUTHOR**

Adobe Systems Incorporated

**BUGS**

Mounting anything but a font named "S" in position 4 will cause troff to do unexpected things. troff really expects the symbol font to be named "S". Thus every font family defined should have identical symbol faces. You can specify some other face name in the **@FACENAMES** line for the fourth font, but don't ".fp" it in troff.

**NOTES**

**NAME**

pscomm—TRANSCRIPT serial communication filter for POSTSCRIPT printers

**SYNOPSIS**

**XPSLIBDIRX/pscomm**

**DESCRIPTION**

This is the low-level TRANSCRIPT serial communication filter for use by the 4.2BSD line printer spooling system through the printer description file /etc/printcap. It is called from the *psint.sh* shell script. This script uses argv[0] (the name it was invoked under) to determine which action to take, which may involve invoking a translation filter or management filter before invoking the communications filter. The options are as specified in the *4.2BSD Line Printer Spooler Manual.* The program *pscomm* is the lowest level filter. It manages communication with the printer, error handling, status reporting, etc.

**ENVIRONMENT**

VERBOSELOG=*number*
: print verbose log messages

**FILES**

| | |
|---|---|
| *printer*.acct | printer accounting file |
| *printer*-log | printer log file |
| status | printer status file (in the spool directory), shared by lpd(8) and pscomm |

**SEE ALSO**

transcript(1), lpr(1), lpc(8), lpd(8), printcap(5), psint(8)
*4.2BSD Line Printer Spooler Manual*

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

psdit—convert ditroff intermediate format to POSTSCRIPT language format

**SYNOPSIS**

**psdit** [ **-F***fontdir* ] [ **-p***prologue* ] [ **-o***list* ] [ *file* ]

**DESCRIPTION**

*psdit* translates a *file* created by device-independent [di]troff (1) to POSTSCRIPT language format for printing on a POSTSCRIPT printer. If no *file* is mentioned, the standard input is used. The POSTSCRIPT language file is sent to the standard output. The options are:

**-F***fontdir*
take font information from *fontdir* instead of the default (see below).

**-p***prologue*
use the contents of *prologue* instead of the default POSTSCRIPT language prologue (see below).

**-o***list* prints pages whose numbers are given in the comma-separated *list*. The list contains single numbers *N* and ranges *N1–N2*. A missing *N1* means the lowest-numbered page, a missing *N2* means the highest.

**Note:** the input for *psdit* should be prepared with the corresponding **-Tpsc** option of [ di ] troff , pic , etc.
eqn should be run with the flags **-r576** and **-m2** to produce suitable output.
pic should be run with the **-D** flag. With **DWB** pic , use **-T576** to set the correct resolution.

*psdit* allows for users to cause *troff* to include arbitrary POSTSCRIPT language code in the generated document. *psdit* recognizes the undefined "%" command in the ditroff intermediate file format to signal the start of raw POSTSCRIPT language to be placed *as is* in the the output file. Everthing between (but not including) the percent sign and a line containing a single period (".") will be placed in the generated output. This code is not insulated from the ditroff coordinate system or the state of the generated code. However, two functions are defined in the prologue so that users may insulate themselves if they so desire. The **PB** function (for *picture begin*) will execute the POSTSCRIPT language operator **save ,** translate the coordinate system to ditroff's idea of the current position on the page, and change the scale and orientation of the coordinate system axes to be the standard 72 units per inch. The **PE** macro (for *picture end*) will end this protected environment.

Several methods may be employed to incorporate such included POSTSCRIPT language code into the ditroff intermediate file. The ".sy", "\!" and ".cf" troff commands may be useful. For example, the following sequence could be used to include the POSTSCRIPT language description of a completely separate, printable document. Note that the "showpage" operator is redefined.

```
(usual troff input)
\&
.fl
\!%PB
\!/showpage{}def
.fl
.sy cat mypic.ps
\!PE
\!.
(more regular troff input)
```

This example includes *mypic.ps* as an illustration. This facility is both powerful and useful. Indiscriminate inclusion of badly behaving POSTSCRIPT language code may be dangerous to your document's health.

*psdit* also supports the \X feature of DWB 2.0 and has support for the psfig package.

**ENVIRONMENT**

PSLIBDIR
path name of a directory to use instead of XPSLIBDIRX for the *psdit* prologue

**FILES**

| | |
|---|---|
| XDITDIRX/devpsc/* | ditroff default description files for a POSTSCRIPT printer virtual device |
| XPSLIBDIRX/psdit.pro | default POSTSCRIPT language prologue |

**SEE ALSO**

transcript(1), psroff(1), psfonts(1).
BSD: ditroff(1), lpr(1).
System V: troff(1), lp(1).
*A Typesetter-independent TROFF* Brian W. Kernighan, Bell Laboratories 1982
*Documenter's Workbench*

**AUTHOR**

Adobe Systems Incorporated

**BUGS**

The versions of eqn and pic distributed with ditroff (from AT&T) have the device names compiled in (so much for device independence!). They should just read the device description file for the information they need. You should be sure to know which version of eqn you are running or you will get undesirable results.
The B-splines generated by *ditroff* are drawn with an approximation. The functions **D~** and **D~~** in the prologue need a little work.

**NOTES**

POSTSCRIPT is a registered trademark of Adobe Systems Incorporated.
Documenter's Workbench is a trademark of AT&T Technologies.
Unix is a trademark of AT&T Bell Laboratories.

**NAME**

psdman—TRANSCRIPT document manager for POSTSCRIPT printers

**SYNOPSIS**

**psdman** [ **-rfsGFaL** ] [ **-P***printername* ] [ **-p***prog* ] [ **-n***user* ] [ **-h***host* ]

**DESCRIPTION**

*psdman* is the TRANSCRIPT document manager invoked by the printer interface script psinterface (System V) or psint.sh (BSD) after the printer interface program has been invoked by the print spooler.

*psdman* is responsible for reading the the document file to be printed, and taking the appropriate action to prepare the file for printing on a POSTSCRIPT printer. *psdman* distinguishes between text files (which get formatted) and POSTSCRIPT language files. If the input to *psdman* does not begin with the POSTSCRIPT language magic number—the first two characters being "%!"— *psdman* will invoke enscript to create a listing of the file. If the first bytes of the input file are "%!PS-Adobe-", and if the printer options so specify, *psdman* will also will perform various document management tasks, such as page reversal, font and other resource downloading, and printer-specific feature inclusion (manual feed, duplex, paper tray setting, etc.) before printing, if so requested. *psdman* supports LZW compression and ASCII85 encodingfor Level 2 printers.

The possible options are:

**-r** never reverse.

**-f** continues processing despite errors. This is the default.

**-s** stops when errors are encountered.

**-G** do not attempt to rearrange fonts for more efficient downloading.

**-F** turns off parsing. If this is specified, *psdman* will simply pass the data through without attempting to perform any document management. Conversion of text files will still occur.

**-a** strips out comments. If this is specified, psdman will strip out any line that begins with "%".

**-L** landscape. *Psdman* will cause the input to be printed rotated 90 degrees. It will not attempt to make sure the resulting image will fit on the page.

**-P***printername*
*printername* is the name of the POSTSCRIPT printer for which output is intended.

**-p***program*
*program* (BSD only) is the name of the program through which psdman was invoked. Typically this is psif.

**-h***host* *host* (BSD only) is the name of the host from which the print job originated.

**-n***user* *user* (BSD only) is the name of the user for whom the print job is being printed.

**ENVIRONMENT**

There are a number of environment variables used by *psdman* which are listed below. The psinterface (System V) or psint.sh (BSD) script sets the initial value for each, and the printer options file can be used to change the value for a particular printer. Note that Bourne shell syntax must be used in the printer options file. For BSD, this file is in the spool directory; for System V, look in /usr/spool/lp/transcript/ps.opt. Many of the variables take a numerical value, and specify whether an action should take place or not; 1 means do the action and 0 means don't do it.

**REVERSE**=*number*
reverse the page order

**VERBOSELOG**=*number*
print verbose log messages

**COMPRESS**=*number*

perform LZW compression on the file

**PSTEMPDIR**=*Directory name*
directory for temporary files

You could turn off page reversal for a particular printer by adding this line to the printer options file:

```
REVERSE=0     export REVERSE
```

**FILES**

| | |
|---|---|
| XPSLIBDIRX/bogusmsg.ps | POSTSCRIPT language file for a "spooled binary file rejected" message to printer |
| XPSTEMPDIRX/t* | Temporary file to format text files. |

**SEE ALSO**

transcript(1), pscomm(1), lp(1), enscript(1)
*System V Line Printer Spooling Utilities*

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

psdraft - add "draft" notices on POSTSCRIPT language documents

**SYNOPSIS**

**psdraft** [ **-s***string* ] [ **-x***xcoord* ] [ **-y***ycoord* ] [ **-f***font* ] [ **-r***angle* ] [ **-g***graylevel* ] [ **-o** ] [ **-p***outfile* ] [ **-P***printer* ] [ *files* ]

**DESCRIPTION**

*psdraft* reads in conforming POSTSCRIPT language files and inserts POSTSCRIPT language code to print a string such as "DRAFT" in the margins, or anywhere on the page.

For example:

psdraft text.ps

produces a POSTSCRIPT file that, in addition to the image already described in text.ps, prints the string "DRAFT" rotated 90 degrees in the right margin.

psdraft -s"Adobe Confidential" -r45 -x252 -y324 text.ps

produces a POSTSCRIPT file that includes the string "Adobe Confidential" in the middle of the page, rotated 45 degrees.

The possible options are:

**-s***string* puts *string* on the paper. The default is "DRAFT".

**-r***angle* rotates the string *angle* degrees. The default is 90.

**-x***xcoord*
puts the string at the *xcoord* x-coordinate on the page. The default is 575.

**-y***ycoord*
puts the string at the *ycoord* y-coordinate on the page. The default is 300.

**-g***graylevel*
specifies the gray level for printing the string. The default is 0 (black).

**-f***font* sets the font to be used for printing the string. The default is Times-Roman30.

Font specifications have two parts: a font name as known to the POSTSCRIPT printer (e.g., Times-Roman, Times-BoldItalic, Helvetica, Courier), and a point size (1 point=1/72 inch; 8 point is a good small point size). So Courier-Bold8 is 8 point Courier Bold, Helvetica12 is 12 point Helvetica.

**-o** specify that the outline of the font should be used. Default is not to use outline.

**-p***out* causes the POSTSCRIPT file to be written to the named file rather than being spooled for printing. As a special case, **-p-** will send the POSTSCRIPT language document to the standard output (which is the default behavior).

**-P***printer*
specifies that *psdraft* should get information about the dimensions of the paper from the POSTSCRIPT Printer Description file for *printer*. This information is necessary to do rotation.

**ENVIRONMENT**

PPDDIR
path for finding POSTSCRIPT Printer Description files.

PSLIBDIR
path name of a directory to use instead of XPSLIBDIRX for then *psdraft* prologue

**FILES**

XPSLIBDIRX/psdraft.pro prologue for *psdraft*

**SEE ALSO**

transcript(1)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

psfax—send faxes to POSTSCRIPT fax printers

**SYNOPSIS**

**psfax** [ **-lct** ] [ **-k***key* ] [ **-f***dbfile* ] [ **-d***faxnumber* ] [ **-S***opt=value* ] [ **-n***recipientname* ] [ **-p***out* ] [ **-P***printer* ] [ *files* ]

**DESCRIPTION**

*psfax* reads in POSTSCRIPT language documents and inserts the appropriate POSTSCRIPT language to allow those files to be sent as faxes by a POSTSCRIPT fax printer. Details about the fax such as recipient, phone number, sender, etc, may be specified on the command line or by looking in a phone book.

For example:

psfax -Paleph -dT9,5551234 -n"John Smith" memo.ps

will cause memo.ps to be imaged, converted into fax format, and faxed to 555-1234, with John Smith's name on the cover sheet as the recipient.

psfax -Paleph -kjsmith -t picture.ps

will look up the entry for jsmith in the phone book and instruct the printer to send picture.ps as a POSTSCRIPT language document, rather than imaging and sending it as a fax, to the POSTSCRIPT fax printer aleph.

*Psfax* supports an address book mechanism. The format of the file consists of a key on a line, followed by a set of lines of the form "option=value". The entry for a key is terminated by a single "." on a line. Multiple values for the key are allowed, separated by "|". You can specify a key "always" for information, such as your name, you wish to have included in every fax. Comments are indicated by lines beginning with '%'. Entries of the form "option:value" indicate that, instead of assigning the string "value" to the option, "value" indicates a file name, and the contents of the file should be assigned to the option. This is most often used for specifying POSTSCRIPT language procedures for items such as coversheets.

You can also set up an entry that is a list of other entries. Lines that begin with "/list=", followed by a list of keys in the database, allow you to send the same fax to a list of people. You can specify "option=value" or "option:value" pairs in the list entry, and those pairs will hold for all the faxes and override any matching entry in the individual entry for a given key in the list.

A sample address book file looks like this:

```
% Sample address book
always
SenderName=Joe Smith
SenderOrg=High Tech Software, Inc.
.
Steve Jones|steve|Steve
RecipientName=Steve Jones
RecipientOrg=Really Fast Chips
DialCallee=T95552337
CoverSheet:specialcover.ps
.
Anne Miller|anne
RecipientName=Anne Miller
RecipientOrg=Brand New Hardware Co.
DialCallee = T918005553849
.
vendors
/list=anne, steve
CoverSheet:ordercover.ps
.
```

The environment variable PSFAXDB may be used to specify the location of the address book file, or it may be specified from the command line. The default location for the file is in $HOME/.faxdb.

The possible options for *psfax* are:

**-k***key* specifies the key to look up in the address book.

**-f***dbfile* specifies the location of the address book file. Default is $HOME/.faxdb.

**-d***faxnum*
specifies the fax number of the recipient. This must be in the form a fax modem can handle. This option is useful when sending a fax to someone not in your address book, or when sending to someone in your address book but at a different fax number. The fax number must be specified somewhere, either with this switch or in the database.

**-t** if specified, sends the fax as a POSTSCRIPT language document, rather than as rasterized fax.

**-c** don't use the address book.

**-n***name* specifies the RecipientName to be *name* from the command line.

**-P***printer*
specifies the printer for spooling.

**-p***outfile*
specifies the file for saving output.

**-S***option=value*

**-S***option:value*
sets various options to either *value* (if specified with "="), or the contents of the file *value* (if specified with ":"). The set of options, and their types, that are supported are:

DialCallee
phone number of fax machine to call.

RecipientName

RecipientPhone
non-fax phone.

RecipientOrg

RecipientMailStop

RecipientID

SenderName

SenderPhone

SenderOrg

SenderMailStop

SenderID

CallerID
identification string as allowed by CCITT protocol.

CalleePhone
human-readable version of DialCallee.

CallerPhone
human-readable version of calling fax number.

FaxType
0 for low resolution, 1 for high resolution.

ErrorCorrect
: controls whether error correction in the transmission should occur; default is true.

TrimWhite
: controls whether white space at the top and bottom is removed before sending; default is false.

PageCaption
: a POSTSCRIPT language procedure to generate a line of information (such as often appears at the top of faxes) on each page of the fax. There is a default procedure to do this.

MaxRetries
: indicate the number of additional tries beyond the first that should be made before giving up.

RetryInterval
: number of minutes to wait between retries.

MailingTime
: for delayed transmission. The array contains year, month, day, hour, minute, second.

CoverSheet
: a POSTSCRIPT language procedure to generate cover sheets. There is a default procedure to do this.

Confirmation
: a POSTSCRIPT language procedure to print a confirmation sheet locally. There is a default procedure to do this.

nPages supplies an estimate of the number of pages exclusive of automatically generated cover sheets.

CoverSheetOnly
: indicates that a job consisting solely of a coversheet is okay. The default is false.

RevertToRaster
: controls what happens if the receiving machine refuses to accept a POSTSCRIPT language job. The default is true.

PostScriptPassword
: the password to use in gaining permission to transmit the fax as a POSTSCRIPT language document.

**ENVIRONMENT**

PSFAXDB
: location of the address book file

**SEE ALSO**

transcript(1)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

POSTSCRIPT is a registered trademark of Adobe Systems Incorporated.

**NAME**

PSFONTS—POSTSCRIPT language font information for TRANSCRIPT programs

**DESCRIPTION**

The following information lists the fonts which are supported in the standard TRANSCRIPT release. Additional fonts can be added to this list; see the TRANSCRIPT installation guide for more details. The fonts are available by full name when using the enscript(1) program, and by short name when using psroff(1) or [di]troff. The font family refers to the name of the family that the particular font belongs to. It is used to declare a default set of fonts in psroff(1), ptroff(1), etc.

A number of font families below use the same two characters to specify all four font faces in the family. The alphabetic case is varied to specify an individual face. For example:
Roman: xx, Bold: xX, Italic: Xx, Bold-Italic: XX.

Please note that alphabetic case is important in all three columns below.

| Full name | Short name | Font family |
|---|---|---|
| AvantGarde-Book | ag | AvantGarde |
| AvantGarde-BookOblique | aG | AvantGarde |
| AvantGarde-Demi | Ag | AvantGarde |
| AvantGarde-DemiOblique | AG | AvantGarde |
| Bookman-Demi | Bo | Bookman |
| Bookman-DemiItalic | BO | Bookman |
| Bookman-Light | bo | Bookman |
| Bookman-LightItalic | bO | Bookman |
| Courier | C | Courier |
| Courier-Bold | CB | Courier |
| Courier-BoldOblique | CD | Courier |
| Courier-Oblique | CO | Courier |
| Garamond-Bold | Ga | Garamond |
| Garamond-BoldItalic | GA | Garamond |
| Garamond-Light | ga | Garamond |
| Garamond-LightItalic | gA | Garamond |
| Helvetica | H | Helvetica |
| Helvetica-Bold | HB | Helvetica |
| Helvetica-BoldOblique | HD | Helvetica |
| Helvetica-Narrow | hn | HelvNarrow |
| Helvetica-Narrow-Bold | Hn | HelvNarrow |
| Helvetica-Narrow-BoldOblique | HN | HelvNarrow |
| Helvetica-Narrow-Oblique | hN | HelvNarrow |
| Helvetica-Oblique | HO | Helvetica |
| LubalinGraph-Book | lu | Lubalin |
| LubalinGraph-BookOblique | lU | Lubalin |
| LubalinGraph-Demi | Lu | Lubalin |
| LubalinGraph-DemiOblique | LU | Lubalin |
| NewCenturySchlbk-Bold | Nc | NewCentury |
| NewCenturySchlbk-BoldItalic | NC | NewCentury |
| NewCenturySchlbk-Italic | nC | NewCentury |
| NewCenturySchlbk-Roman | nc | NewCentury |
| Optima | op | Optima |
| Optima-Bold | Op | Optima |
| Optima-BoldOblique | OP | Optima |
| Optima-Oblique | oP | Optima |

| | | |
|---|---|---|
| Palatino-Bold | PB | Palatino |
| Palatino-BoldItalic | PX | Palatino |
| Palatino-Italic | PI | Palatino |
| Palatino-Roman | PA | Palatino |
| Souvenir-Demi | Sv | Souvenir |
| Souvenir-DemiItalic | SV | Souvenir |
| Souvenir-Light | sv | Souvenir |
| Souvenir-LightItalic | sV | Souvenir |
| Symbol | S | (none) |
| Times-Bold | TB | Times |
| Times-BoldItalic | TD | Times |
| Times-Italic | TI | Times |
| Times-Roman | TR | Times |
| ZapfChancery-MediumItalic | ZC | Zapf |
| ZapfDingbats | (none) | (none) |

**FILES**

| | |
|---|---|
| XPSLIBDIRX/*.afm | AFM (Adobe Font Metrics) files for use with enscript(1). The names of these AFM files as shipped with the TRANSCRIPT release are abbreviated, and the resource file afmfiles.upr provides the mapping between font name and AFM file name. |
| XDITDIRX | Directory containing font families for [di]troff(1) |
| XTROFFFONTDIRX | Directory containing font families for [o]troff(1) |

**SEE ALSO**

transcript(1), enscript(1), psroff(1), ptroff(1)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

psint—TRANSCRIPT interface script for POSTSCRIPT printers

**SYNOPSIS**

**XPSLIBDIRX/ps?f**

**DESCRIPTION**

This is the low-level TRANSCRIPT interface script for use by the BSD line printer spooling system through the printer description file /etc/printcap . The *ps?f* entries in XPSLIBDIRX are all links to the *psint.sh* shell script. This script uses argv[0] (the name it was invoked under) to determine which action to take. The options are as specified in the *4.2BSD Line Printer Spooler Manual.* This shell script reads a printer-specific shell script named in the current working directory (the spooling directory) which may do additional printer-specific processing. The .options script is often used to redefine the values of some environment variables that regulate page-reversal, how to print banner pages, etc. See below.

The *psof* entry is responsible for formatting a banner break page. It executes the psbanner filter which leaves the banner page in a file named ".banner" for the communications program to print. The *psint.sh* interface script is responsible for invoking programs to do translation if necessary, document management, and communication with the printer.

*psgf*, *psnf*, and *pstf* are the filters for plot (5), ditroff (1), and troff (1) respectively. The *psif* filter will also accept any POSTSCRIPT language print file. Other filter entries, such as those for TeX DVI files, cifplot, and raw raster data are not available in the TRANSCRIPT package, although they may be available from other sources. The default action for these filter types is to execute psbad, a script that prints and logs an error message that the translation filter is not available. The translation filters are usually invoked by giving an option to lpr(1). It is not correct to invoke the interface filters directly. More flexibility in format conversion may be achieved by invoking the appropriate translator directly, rather than specifying an lpr option.

**psint.sh Environment Variables.**

A number of environment variables are used by the spooler filters. These are listed below. The *psint.sh* script sets the initial value for each, and the .options file can be used to change the value for a particular printer. Note that Bourne shell syntax must be used in both *psint.sh* and the .options file. Many of the variables take a numerical value and specify whether an action should take place or not; 1 means do the action and 0 means don't do it.

| | |
|---|---|
| BANNERFIRST=*number* | Print a banner at start of the job |
| BANNERLAST=*number* | Print a banner at end of the job |
| (see note below) | 0=no banner at the end |
| | 1=don't unlink the .banner file |
| | 2=unlink .banner after use |
| BANNERPRO=*file name* | banner prologue file |
| VERBOSELOG=*number* | print verbose log messages |
| PSCOMM=*path name* | specify the communication program to be used. |
| PSDMAN=*path name* | specify the document management program to be used. This is useful for specifying various switches to psdman(8). |

**Note:** Due to some problems with the design of lpd(8), there is no implementation of BANNERLAST that will work in all cases. Two options are provided:

BANNERLAST=1. This prints out a banner between each copy in a multiple-copy job. It also may print out *the previous user's* banner on a job that has specified no banner (lpr -h).

BANNERLAST=2. This never prints a banner on a job that has specified no banner (lpr -h). However, it prints a banner after *the first copy* only in a multiple-copy job. It should be after all copies or after the final copy.

You can change the banner page for a particular printer by redefining the BANNERPRO value.

**FILES**

| | |
|---|---|
| XPSLIBDIRX/ | POSTSCRIPT library, prologues, filters, etc |
| .options | printer-specific options script (in the printer spool directory) |
| *printer*.acct | printer accounting file |
| *printer*-log | printer log file |
| .banner | Banner break page temporary file (in the spool directory), generated by *psof/psbanner*. |
| status | Printer status file (in the spool directory), shared by lpd(8), and the communications program. |

**SEE ALSO**

transcript(1), lpr(1), lpc(8), lpd(8), printcap(5), psdman(8), pscomm(8), qmscomm(8), lpcomm(8), fpcomm(8), capcomm(8).
*4.2BSD Line Printer Spooler Manual*

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

psinterface—TRANSCRIPT spooler filters for POSTSCRIPT printers

**SYNOPSIS**

**psinterface**

**DESCRIPTION**

The *psinterface* shell script is the printer interface program as supplied to lpadmin. The options are as specified in the *Line Printer Spooling Utilities Guide.* This shell script reads a printer-specific shell script named transcript/*printer*.opt below the current working directory (the lp spooling directory) which may do additional printer-specific processing. The *printer*.opt script is often used to redefine the values of some environment variables that regulate page-reversal, how to print banner pages, etc. for specific printers. See below.

*Psinterface* is responsible for the complete processing of the print job, invoking programs to accomplish banner pages, document management, and communications. If job banner break pages are enabled for this printer (and requested for this job), *psinterface* will invoke psbanner to format a banner break page. *Psinterface* currently recognizes three TRANSCRIPT-specific spooling options (presented to lp with the **–o** flag). The **h** option suppresses the printing of a banner break page, the **r** option suppresses page reversal, and the **m** option causes *psinterface* to send any stream output from the execution of the user's POSTSCRIPT print file back to the user as mail.

The *psinterface* script also invokes a communications program for communicating with the printer. Communications programs are provided for serial communications, Centronix parallel communications, Appletalk communications, and Ethernet communications with either a QMS printer or a MiLAN FastPort printer server. *Psinterface* and the communications program manage a printer log file named transcript/*printer*-log (under the lp spooling directory). This file contains a log of each job processed, as well as any error output from the printer. In particular, it contains messages regarding the printer being out of paper, jammed, etc. Doing a tail on this file will help determine the printer's status.

**psinterface Environment Variables.**

A number of environment variables are used by the spooler filters. These are listed below. The *psinterface* script sets the initial value for each, and the *printer*.opt file can be used to change the value for a particular printer. Note that Bourne shell syntax must be used in both *psinterface*, and the *printer*.opt file. Many of the variables take a number value and specify whether or not an action should take place; 1 means do the action and 0 means don't do it.

| | |
|---|---|
| BANNERFIRST=*number* | print a banner at start of the job |
| BANNERLAST=*number* | print a banner at end of the job |
| BANNERPRO=*file name* | banner prologue file |
| VERBOSELOG=*number* | print verbose log messages |
| PSTEMPDIR=*directory name* | directory for temporary files |

You can change the banner page for a particular printer by redefining the BANNERPRO value.

**FILES**

| | |
|---|---|
| XPSLIBDIRX/ | TRANSCRIPT library, prologues, filters, etc |
| *spooldir*/transcript/*printer*-log | printer log file |
| *spooldir*/transcript/*printer*.opt | printer-specific options script |
| XPSTEMPDIRX/b* | banner break page temporary file generated by *psinterface/psbanner* |
| XPSTEMPDIRX/o* | job output temporary file for mail |
| XPSTEMPDIRX/t* | temporary file to format text files |

**SEE ALSO**

transcript(1), lp(1), lpstat(1), lpsched(1M), lpadmin(1M), psdman(8), pscomm(8), qmscomm(8), lpcomm(8), fpcomm(8), capcomm(8)

*System V Line Printer Spooling Utilities*

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

pslpr—select or reverse the page order of a POSTSCRIPT language file

**SYNOPSIS**

**pslpr** [ **-LRfGazequ** ] [ **-i***pagerange* ] [ **-S***feature=value* ] [ **-I***resourcepath* ] [ **-p***filename* ] [ *spoolopts* ] [ *files* ]

**DESCRIPTION**

*pslpr* reads in the specified POSTSCRIPT language *file* (or the standard input if no file is named) and, if the input conforms to the POSTSCRIPT language document structuring conventions, provides page order reversal, landscape orientation, and selection of specified pages for printing. Font and other resource downloading is supported as well as inclusion of printer-specific features such as manual feed. *pslpr* also supports ASCII85 encoding and LZW compression for Level 2 printers. *pslpr* sends output to *filename* if the **-p** option is used; otherwise the output is printed on the printer specified by either the **-P***printer* option for BSD or the **-d***dest* option of System V. If none of these options is used, *pslpr* prints on the printer specified by the PRINTER environment variable, if present, or to a printer named "PostScript".

The possible options are:

**-i***pagerange*
: *pagerange* may be a single page number or a range of the form "N-M" which means print pages N through M. Multiple instances of *pagerange* may be specified by repetitive use of this option.

**-R** reverses the page order.

**-L** prints the document in landscape format. Use of this option when processing a POSTSCRIPT language document that describes a page which is longer than the width of the paper being used will result in truncation at the top of the printed page. You can use the **-u** switch to force the truncation of the bottom of the page instead of the top, or the **-q** option to shrink the image to fit in the width of the paper. When using the n-up capabilitiy of psnup, it is preferable to also use the rotate option of psnup rather than the landscape option of *pslpr* because the rotation of the page is taken into account by psnup when laying out multiple pages on a sheet of paper.

**-l***resourcepath*
: specifies the path name for a printer resource. If the resource is not available in the printer, as defined in the printer's POSTSCRIPT Printer Description file, *pslpr* will download the resource to the printer.

**-p***filename*
: sends the document to the specified file, instead of printing it. If **-p-** is specified, output is directed to standard output.

**-f** forces *pslpr* to proceed despite errors.

**-F** don't perform any manipulation of the document—no page reversal, font downloading, etc.

**-G** don't rearrange. *pslpr* will attempt to rearrange downloaded fonts to minimize transmission time if the printer has enough memory. the -G option disables this feature.

**-a** strips comments. Strips out all lines that begin with "%". This should not be used if later processing of this document is expected.

**-z** performs LZW compression and ASCII85 encoding of the document. This feature is available only in Level 2 printers.

**-e** adds showpage. This is useful when printing Encapsulated POSTSCRIPT files, which may or may not have a showpage in them.

**-q** shrinks to fit. This is used in conjunction with landscape mode. When specified, the image will be scaled to fit on the rotated page.

**-u** overtranslates when rotating. The default behavior when landscape is specified is to translate the axis so that the bottom left corner of the rotated page corresponds with the origin. If this switch is

specified, the axis will be translated beyond that, so that the point in the coordinate space that matched the upper left corner of the unrotated page will match the upper left corner of the rotated page. This is useful when rotating images produced by programs whose idea of the origin of the coordinate space is at the top of the page, rather than the bottom, as in the POSTSCRIPT language imaging model.

**-S***feature=value*
Sets a printer-specific feature, such as manual feed. If no value is specified, a value of "TRUE" is assumed. Any feature named in the target printer's POSTSCRIPT Printer Description file can be used here.

In BSD UNIX systems, the following spooler options are passed on to lpr.

**-P***printer*
causes the output to be sent to the named printer, unless *filename* is specified; in which case, the printer name is used to access the printer's POSTSCRIPT Printer Description file for information, and the output is written to the specified file instead of being spooled for printing.

**-#***n* causes *n* copies of the output to be produced. The default is one.

**-h** suppresses the printing of the job burst page.

**-C***class*
sets the job classification for use on the burst page.

**-J***name*
sets the job name for use on the burst page. Otherwise, the name of the first input file will be used.

**-m** sends mail after files have been printed.

**-r** renames the file after printing.

In System V UNIX systems, the following spooler options are passed on to lp. See the man pages for LP(C) and LPR(W) for more complete descriptions.

**-d***dest* causes the output to be sent to the named printer unless **-p***file* is specified; in which case, the printer name is used to access the printer's POSTSCRIPT Printer Description file for information, and the output is written to the specified file instead of being spooled for printing.

**-c** immediately makes a copy of the file to be printed.

**-n***n* causes *n* copies of the output to be produced. The default is one.

**-h** suppresses the printing of the job burst page.

**-r** don't page-reverse the output.

**-s** suppresses messages from lp.

**-m** sends mail after files have been printed.

**-t***title* specifies the title.

**-w** writes to the user's terminal after files have been printed.

**-o***option*
sends a printer-dependent or class dependent option to print spooler.

**EXAMPLES**

The following command reads a POSTSCRIPT language file called printfile.ps and prints pages 3 through 19, 37 through 60 and page 90, in landscape format. The **-d** option (System V only; for BSD use the **-P** option) directs the output to the printer called ps, and is required when using the -L option.

```
pslpr -i3-19 -i37-60 -i90 -L -dps  printfile.ps
```

In the next example, a textfile is processed by enscript, creating a POSTSCRIPT language file which is piped to *pslpr* and printed page-reversed on the printer named LaserBlaster. The first line in the example is for BSD, the second for System V.

```
enscript -p- textfile | pslpr -R -PLaserBlaster

enscript -p- textfile | pslpr -R -dLaserBlaster
```

In this example, a POSTSCRIPT language file (doc.ps) is prepared for printing on a specific printer (LaserBlaster), but is saved in a file (LBprintfile), instead of being spooled for printing. Again, the first line in the example is for BSD, the second for System V.

```
pslpr -pLBprintfile -PLaserBlaster doc.ps

pslpr -pLBprintfile -dLaserBlaster doc.ps
```

**ENVIRONMENT**

PSRESOURCEPATH
: path name to use for accessing printer resource information for downloadable resources

PSTEMPDIR
: path name of a temporary directory to use instead of XPSTEMPDIRX for spooled temporary files

PRINTER (BSD)
: the name of a printer (as in the **-P** option) for lpr to use. If no **-P** option is specified, lpr will use this printer. If neither **-P** nor PRINTER is set, *pslpr* will spool to a printer named "PostScript".

LPDEST (System V)
: the name of a printer (as in the **-d** option) for lp to use. If no **-d** option is specified, lp will use this printer. If neither **-d** nor LPDEST is set, *pslpr* will spool to a printer class named "PostScript".

**SEE ALSO**

transcript(1), enscript(1), psnup(1), postscript(7)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

psnup—print multiple pages on a sheet of paper.

**SYNOPSIS**

**psnup** [ **-rGf** ] [ **-n***nupspec* ] [ **-S***papersize* ] [ **-s***pagesize* ] [ **-w***pagewidth* ] [ **-h***pageheight* ] [ **-p***outputfile* ] [ **-P***printer* ] [ **-d***printer* ] [ *file* ]

**DESCRIPTION**

*psnup* reads in a POSTSCRIPT language *file* (or the standard input if no file is named) and, if the input conforms to the POSTSCRIPT language document structuring conventions, provides page rotation, printing of multiple pages on a sheet of paper (n-up printing), selection of page and paper sizes, and writes the resulting file on the standard output. The output may be directed to a file.

The possible options are:

**-n***nupspec*

*nupspec* may be a single number specifying how many pages will be printed on each sheet of paper, or a specification of the form: *n* x *m*, where *n* and *m* specify rows and columns, respectively. Rows refers to the number of page images across a sheet of paper, columns to the number of page images down a sheet of paper. The specification **-n***2x2* is equivalent to the specification **-n***4*. If the number of pages on a sheet is specified as a single number, the number must be a power of 2.

**-r** rotates the page 90 degrees (landscape mode). When using the n-up capability of *psnup*, this option is preferable to the landscape option of pslpr because the rotation of the page is taken into account when laying out multiple pages on a sheet of paper.

**-S***papersize*

specifies size of paper for which output is to be formatted. The default is Letter (8.5 x 11).

**-s***pagesize*

specifies the size of pages being printed n-up (i.e., the original size). The default is Letter (8.5 x 11).

**-w***pagewidth*

if the size of the pages being printed n-up isn't a standard size, you can specify the width and height instead. Numbers followed by "i" will be interpreted in inches, by "m" in millimeters, and numbers without qualification will be interpreted as specifying the distance in points.

**-h***pageheight*

specifies the height of the page being printed n-up.

**-G** formats the document in psnup's "gaudy" mode, with borders around the virtual pages. If no n-up specification is given, the input file is printed with four virtual pages per sheet of paper.

**-p***outputfile*

writes output to the specified file. **-p-** means write output to standard output.

**-P***printername*

**-d***printername*

uses *printername's* POSTSCRIPT Printer Description file for information about available paper sizes. The result is *not* spooled to the printer.

**EXAMPLES**

The following command reads a POSTSCRIPT language file called printfile.ps and formats it with four pages on a sheet of paper. The file is piped through pslpr to be printed on the printer called ps.

```
psnup -n4 printfile.ps | pslpr -Pps
```

In this example, a text file is processed by enscript, creating a POSTSCRIPT language file, which is piped to *psnup*, which rotates the file and formats it with three virtual pages across and two virtual pages down the paper. The formatted file is printed by piping the file through pslpr.

```
enscript -p- textfile | psnup -r -n3x2 | pslpr
```

In this example, a text file is processed by enscript, creating a POSTSCRIPT language file, which is piped to *psnup*, formatted in gaudy mode ( **-G** option), with four virtual pages per actual page of output. The formatted file is printed by piping the file through pslpr. The result is printed pages with four original text pages on each sheet, with each original text page surrounded by a border.

```
enscript -p- textfile | psnup -G -n4 | pslpr
```

**FILES**

XPSLIBDIRX/psnup.pro the prologue for *psnup* files.

**SEE ALSO**

transcript(1), enscript(1), pslpr (1), postscript(7).

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

POSTSCRIPT is a registered trademark of Adobe Systems Incorporated.

**NAME**

psplot—convert plot(5) files to POSTSCRIPT language format

**SYNOPSIS**

**psplot** [ **-g***prologue* ] [ *files* ]

**DESCRIPTION**

*psplot* reads *files* in plot(5) format and converts them to POSTSCRIPT language format on the standard output. If no *files* are specified, the standard input is used. The conversion is almost one-for-one, with one POSTSCRIPT language function call for each plot primitive. The behavior of the generated file can be modified by changing the definitions of the POSTSCRIPT language functions in the prologue. If no **-g** option is specified, the default prologue is used.

**ENVIRONMENT**

PSLIBDIR

path name of a directory to use instead of XPSLIBDIRX for the *psplot* prologue file

**FILES**

XPSLIBDIRX/psplot.pro default prologue file

**SEE ALSO**

transcript(1), ps4014(1).
BSD: graph(1), plot(1), plot(3), plot(5), lpr(1).
System V: lp(1).

**AUTHOR**

Adobe Systems Incorporated

**BUGS**

*plot* format has been removed from some newer UNIX systems (e.g., Systems V), but *psplot* lives on.

**NOTES**

POSTSCRIPT is a registered trademark of Adobe Systems Incorporated. Unix is a trademark of AT&T Bell Laboratories.

**NAME**

psroff—ditroff to a POSTSCRIPT printer

**SYNOPSIS**

**psroff** [ **-t** ] [ *troff options* ] [ *spool options* ] [ *files* ]

**DESCRIPTION**

*psroff* is a shell script that runs [di]troff(1) in an environment to produce output on a POSTSCRIPT printer. It uses psdit to convert ditroff intermediate output to POSTSCRIPT language format and spools this for printing. If no *files* are specified, the standard input is used.

For those interested in including arbitrary POSTSCRIPT language commands or files in a ditroff document, see psdit(1).

In addition to the standard ditroff options, the following options are understood by *psroff*.

**-t** sends the POSTSCRIPT language file to the standard output, rather than spooling it to a printer. Note that this overrides the meaning of the ditroff **-t** option; if you want that, run ditroff directly.

**-F***fontfamily*
use the specified font family for the R/I/B/BI fonts, rather than the default family, which is Times. Font families Times, Courier, and Helvetica are probably defined at your site, and others may be available as well. Make sure the printer you will use contains the font family you pick. Note that this overrides the meaning of the ditroff **-F** option; if you want that, run ditroff directly, or use the **-D** option.

**-D***fontdirectory*
finds font family directories in the specified *fontdirectory* rather than the standard font directory which was configured in the installation procedure. Note that it may be necessary to use both this option and the **-F** option to imitate the **-F** option in ditroff.

In BSD UNIX systems, the following spooler options are passed on to lpr.

**-P***printer*
causes the output to be sent to the named printer.

**-#***n* causes *n* copies of the output to be produced. The default is one.

**-h** suppresses the printing of the job burst page.

**-C***class* set the job classification for use on the burst page.

**-J***name* sets the job name for use on the burst page. Otherwise, the name of the first input file will be used.

**-m** sends mail after files have been printed.

In System V UNIX systems, the following spooler options are passed on to lp.

**-d***dest* causes the output to be sent to the named destination.

**-n***n* causes *n* copies of the output to be produced. The default is one.

**-h** suppresses the printing of the job burst page.

**-r** don’t page-reverse the output.

**-s** suppresses messages from lp.

**-m** sends mail after files have been printed.

**-w** writes to user’s terminal after files have been printed.

**ENVIRONMENT**

PRINTER (BSD)
the name of a printer (as in the **-P** option) for lpr to use. If no **-P** option is specified, lpr will use this printer. If neither **-P** nor PRINTER is set, *psroff* will spool to a printer named "PostScript".

LPDEST (System V)

the name of a printer (as in the **-d** option) for lp to use. If no **-d** option is specified, lp will use this printer. If neither **-d** nor LPDEST is set, *psroff* will spool to a printer class named "PostScript".

**FILES**

| | |
|---|---|
| /usr/lib/tmac/tmac.* | standard macro files |
| XDITDIRX/devpsc/* | ditroff description files for the POSTSCRIPT printer virtual device |

**SEE ALSO**

transcript(1), psdit(1), ptroff(1), psfonts(1), [di]troff(1), eqn(1), tbl(1), pic(1), refer(1), ideal(1)
BSD: lpr(1)
System V: lp(1)
J. F. Ossanna, *Nroff/Troff User's Manual*
B. W. Kernighan, *A TROFF Tutorial* and *A Typesetter-independent TROFF*
*Documenter's Workbench*

**AUTHOR**

Adobe Systems Incorporated

**BUGS**

The eqn supplied with ditroff is different from the original. Use the options **-r576 -m2** for best results. Other programs (e.g., pic ) distributed with ditroff have the device names compiled in (so much for device independence!). They should just have a **-T** option and read the device description file for the information they need. Use **-T576** with the pic distributed with DWB.

**NOTES**

**NAME**

PSSYMBOLS—List of symbols for ditroff in TRANSCRIPT system

**DESCRIPTION**

The following is a list of the symbols that are available in psroff(1) (or ditroff) in the TRANSCRIPT release. The list gives the name of the symbol which is used in troff, and a short description. If this page is printed on a POSTSCRIPT printer using psroff, the actual representation for the symbol is also shown. (psroff or ditroff must be used; ptroff will not work.) The description for each symbol is the name by which the symbol is known in Adobe fonts. The name can be used to find the character in font documentation for the appropriate font(s).

Many of the symbols below are from the Symbols font. Some are in each alphabetic font. Those marked with an asterisk are constructed with POSTSCRIPT language code and so are not necessarily from any font. Characters similar to many of the fonts marked with an asterisk do appear in fonts, though, so the description usually shows the name of a similar character.

| Rep | Sym. | Description | Rep | Sym. | Description | Rep | Sym. | Description |
|---|---|---|---|---|---|---|---|---|
| ⊕ | \(a+ | circleplus | ´ | \(aa | acute | æ | \(ae | ae |
| ℵ | \(al | aleph | ∧ | \(an | logicaland | ~ | \(ap | similar |
| ⊗ | \(ax | circlemultiply | ˘ | \(be | breve | \| | \(br | boxrule* |
| ♥ | \(bs | heart | ⊥ | \(bt | perpendicular | • | \(bu | bullet* |
| \| | \(bv | boldvertical* | ■ | \(bx | box* | ∩ | \(ca | intersection |
| ¸ | \(cd | cedilla | ○ | \(ci | circle* | ∈ | \(cm | element |
| © | \(co | copyright | ↵ | \(cr | carriagereturn | ¢ | \(ct | cent |
| ∪ | \(cu | union | « | \(d< | guillemotleft | » | \(d> | guillemotright |
| ↓ | \(da | arrowdown | ‡ | \(dd | daggerdbl | ° | \(de | degree |
| † | \(dg | dagger | ÷ | \(di | divide | ♦ | \(dm | diamond |
| ˙ | \(dt | dotaccent | — | \(em | emdash | – | \(en | endash |
| = | \(eq | equal | ∅ | \(es | emptyset | ∀ | \(fa | universal |
| fi | \(fi | fi-ligature | fl | \(fl | fl-ligature | ′ | \(fm | minute |
| ` | \(ga | grave | ∇ | \(gr | gradient | ˇ | \(hc | caron |
| - | \(hy | hyphen | ⊆ | \(ib | reflexsubset | ∞ | \(if | infinity |
| ⇒ | \(im | arrowdblright | ⇔ | \(io | arrowdblboth | ⊇ | \(ip | reflexsuperset |
| ∫ | \(is | integral* | ⟨ | \(l< | angleleft | ∧ | \(la | logicaland |
| ⎩ | \(lb | braceleftbt* | ⌈ | \(lc | bracketlefttp* | ⌊ | \(lf | bracketleftbt* |
| ⇐ | \(lh | arrowdblleft | ⎨ | \(lk | braceleftmid* | ∨ | \(lo | logicalor |
| “ | \(lq | quotedblleft | ⎛ | \(lt | parenlefttp* | · | \(m. | dotmath |
| ¯ | \(ma | macron | ¯ | \(mc | macron | – | \(mi | minus |
| ∈ | \(mo | element | ′ | \(mt | minute | × | \(mu | multiply |
| ' | \(n’ | quotesingle | ¬ | \(no | logicalnot | ø | \(o/ | oslash |
| ○ | \(ob | outlinebullet* | œ | \(oe | oe | ˛ | \(og | ogonek |
| \| | \(or | bar | ∂ | \(pd | partialdiff | + | \(pl | plus |
| ‰ | \(pm | perthousand | £ | \(po | sterling | ¶ | \(pp | paragraph |
| £ | \(ps | sterling | ∝ | \(pt | proportional | 〉 | \(r> | angleright |
| ⎭ | \(rb | parenrightbt* | ⎫ | \(rc | bracketrighttp* | ⌋ | \(rf | bracketrightbt* |
| ® | \(rg | registerserif | ⇒ | \(rh | arrowdblright | ˚ | \(ri | ring |
| ⎬ | \(rk | bracerightmid* | ¯ | \(rn | radicalex* | ” | \(rq | quotedblright |
| ⎠ | \(rt | parenrighttp* | _ | \(ru | rule* | ⊂ | \(sb | propersubset |
| § | \(sc | section | ″ | \(sd | second | / | \(sl | slash |
| ⊃ | \(sp | propersuperset | □ | \(sq | square* | √ | \(sr | radical* |
| ß | \(ss | germandbls | ∃ | \(te | existential | ∴ | \(tf | therefore |
| ™ | \(tm | trademarkserif | ς | \(ts | sigma1 | ↑ | \(ua | arrowup |
| ı | \(ui | dotlessi | _ | \(ul | underline* | ¨ | \(um | dieresis |
| \| | \(vr | verticalrule* | ¥ | \(yi | yen | ¥ | \(yn | yen |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ± | \(+- | plusminus | → | \(-> | arrowright∗ | ¨ | \(.. | dieresis |
| ∗ | \(** | asteriskmath | ≡ | \(== | equivalence∗ | ≈ | \(~= | approxequal |
| ¡ | \(!! | exclamdown | ≠ | \(!= | notequal | ∉ | \(!m | notelement |
| ⊄ | \(!s | notsubset | *f* | \($D | florin | ¥ | \($J | yen |
| ⇒ | \(:> | arrowdblright | ← | \(<- | arrowleft∗ | ⇐ | \(<: | arrowdblleft |
| ≤ | \(<= | lessequal | ↔ | \(<> | arrowboth | ≥ | \(>= | greaterequal |
| ¿ | \(?? | questiondown | ½ | \(12 | 1/2∗ | ⅓ | \(13 | 1/3∗ |
| ¼ | \(14 | 1/4∗ | ⅛ | \(18 | 1/8∗ | ⅔ | \(23 | 2/3∗ |
| ¾ | \(34 | 3/4∗ | ⅜ | \(38 | 3/8∗ | ⅝ | \(58 | 5/8∗ |
| ⅞ | \(78 | 7/8∗ | Æ | \(AE | AE | ¡ | \(I! | exclamdown |
| ¿ | \(I? | questiondown | Ø | \(O/ | Oslash | Œ | \(OE | OE |
| Ł | \(PL | Lslash | ł | \(Pl | lslash | A | \(∗A | Alpha |
| B | \(∗B | Beta | Ξ | \(∗C | Xi | Δ | \(∗D | Delta |
| E | \(∗E | Epsilon | Φ | \(∗F | Phi | Γ | \(∗G | Gamma |
| Θ | \(∗H | Theta | I | \(∗I | Iota | K | \(∗K | Kappa |
| Λ | \(∗L | Lambda | M | \(∗M | Mu | N | \(∗N | Nu |
| O | \(∗O | Omicron | Π | \(∗P | Pi | Ψ | \(∗Q | Psi |
| P | \(∗R | Rho | Σ | \(∗S | Sigma | T | \(∗T | Tau |
| Y | \(∗U | Upsilon | Ω | \(∗W | Omega | X | \(∗X | Chi |
| H | \(∗Y | Eta | Z | \(∗Z | Zeta | α | \(∗a | alpha |
| β | \(∗b | beta | ξ | \(∗c | xi | δ | \(∗d | delta |
| ε | \(∗e | epsilon | ϕ | \(∗f | phi | γ | \(∗g | gamma |
| θ | \(∗h | theta | ι | \(∗i | iota | κ | \(∗k | kappa |
| λ | \(∗l | lambda | μ | \(∗m | mu | ν | \(∗n | nu |
| o | \(∗o | omicron | π | \(∗p | pi | ψ | \(∗q | psi |
| ρ | \(∗r | rho | σ | \(∗s | sigma | τ | \(∗t | tau |
| υ | \(∗u | upsilon | ω | \(∗w | omega | χ | \(∗x | chi |
| η | \(∗y | eta | ζ | \(∗z | zeta | | | |

**SEE ALSO**

transcript(1), psroff(1)

**AUTHOR**

Adobe Systems Incorporated

**NOTES**

**NAME**

ptroff—troff to a POSTSCRIPT printer

**SYNOPSIS**

**ptroff** [ **-t** ] [ **-F***family* ] [ *troff options* ] [ *spool options* ] [ *files* ]

**DESCRIPTION**

*ptroff* is a shell script that runs [o]troff(1) in an environment to produce output on a POSTSCRIPT printer. It uses pscat to convert troff C/A/T output to a POSTSCRIPT language print file, and spools this for printing. If no *files* are specified, the standard input is used.

In addition to the standard [o]troff options, the following options are understood by *ptroff*.

**-t** sends the POSTSCRIPT language output to the standard output, rather than spooling it to a printer. Note that this overrides the meaning of the troff **-t** option; if you want the C/A/T file, run [o]troff directly.

**-F***fontfamily*
names a font family to load into [o]troff and pscat. *Fontfamily* is used to name both a ∗.head file containing troff "fp" commands, and a ∗.ct file containing a character mapping for pscat. Font families "Times" and "Helvetica" are probably defined at your site; others may be available.

In 4.2bsd UNIX systems, the following spooler options are passed on to lpr.

**-P***printer*
causes the output to be sent to the named printer.

**-#***n* causes *n* copies of the output to be produced. The default is one.

**-h** suppresses the printing of the job burst page.

**-C***class* sets the job classification for use on the burst page.

**-J***name* sets the job name for use on the burst page. Otherwise, the name of the first input file will be used.

**-m** sends mail after files have been printed.

In System V UNIX systems, the following spooler options are passed on to lp.

**-d***dest* causes the output to be sent to the named destination.

**-n***n* causes *n* copies of the output to be produced. The default is one.

**-h** suppresses the printing of the job burst page.

**-r** don’t page-reverse the output.

**-s** suppresses messages from lp.

**-m** sends mail after files have been printed.

**-w** writes to the user’s terminal after files have been printed.

**ENVIRONMENT**

PRINTER (BSD)
the name of a printer (as in the **-P** option) for lpr to use. If no **-P** option is specified, lpr will use this printer. If neither **-P** nor PRINTER is set, *ptroff* will spool to a printer named "PostScript".

LPDEST (System V)
the name of a printer (as in the n **-d** option) for lp to use. If no **-d** option is specified, lp will use this printer. If neither **-d** nor LPDEST is set, *ptroff* will spool to a printer class named "PostScript".

**FILES**

| | |
|---|---|
| XTROFFFONTDIRX/∗.ct | character correspondence tables for pscat. |
| XTROFFFONTDIRX/∗.head | troff headers containing ".fp" commands. |

| | |
|---|---|
| XTROFFFONTDIRX/ftXX | font width files for troff. |
| XPSLIBDIRX/pscat.pro | default POSTSCRIPT language prologue for pscat. |

**SEE ALSO**

pscat(1), pscatmap(8)
BSD: troff(1)
System V: otroff(1)
J. F. Ossanna, *Nroff/Troff User's Manual*
*Documenter's Workbench*

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**BUGS**

Because of the character mapping tables used, explicit use of the ".fp" troff directive will usually produce the wrong result. Users must build and reference correct tables with *pscatmap*(8) for non-standard ".fp" combinations to work.

More flexibility is allowed by using *troff*, *pscat*, and the spooler separately.

**NOTES**

POSTSCRIPT is a registered trademark of Adobe Systems Incorporated.
TRANSCRIPT is a trademark of Adobe Systems Incorporated.
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**NAME**

TRANSCRIPT—Programs for accessing POSTSCRIPT printers

**DESCRIPTION**

The TRANSCRIPT package is a suite of UNIX programs that enables UNIX systems to access state-of-the-art POSTSCRIPT printers. The package transforms UNIX documents and graphics files into POSTSCRIPT language format. The POSTSCRIPT language is a device-independent programming language and print file format for describing the appearance of printed pages. POSTSCRIPT language documents can combine text, graphics, line art, and scanned images for printing on raster devices. POSTSCRIPT language files will print *without modification* on any POSTSCRIPT printer.

The TRANSCRIPT package includes translator filters for common UNIX document file formats like troff, ditroff, and plot. It also includes filters for "line-printer" listings, Diablo 630 print files, and Tektronix 4014 files. TRANSCRIPT software is fully integrated into the spooling architecture, and includes the communications filters necessary to print job banner pages, do page accounting, and perform communication with a POSTSCRIPT printer.

The following programs are provided with the TRANSCRIPT release. See the appropriate manual page for each filter for more details.

*enscript* converts plain text files into POSTSCRIPT language format. Fonts, headings, and limited formatting options may be specified, as well as spooling options.

*ps4014* converts Tektronix 4014 graphics terminal commands into POSTSCRIPT language format.

*ps630* converts Diablo 630 word processing files into POSTSCRIPT language format.

*psplot* converts UNIX plot(1) format files into POSTSCRIPT language format.

*pslpr* Reverse page order and/or select specified pages in POSTSCRIPT language format files . Pslpr also provides other document management services such as font downloading, downloading of other resources such as procedure sets, and handling of printer-specific features. It is similar in function to psdman, but is invoked by the user, so the user has more control over things such as where fonts and resources are obtained. These services are provided for documents that conform to the Document Structuring Conventions. See the pslpr(1) manual page for a more complete description of this filter and its various functions.

*psnup* prints multiple virtual pages on a single page, for documents that conform to the Document Structuring Conventions. See the psnup(1) manual page for a more complete description of this filter and its various functions.

*psroff* converts [di]troff(1) input into POSTSCRIPT language format. This is actually a shell script. See the psroff(1) manual page for more information.

*ptroff* converts [o]troff(1) input into POSTSCRIPT language format. This is actually a shell script. See the ptroff(1) manual page for more information.

*psfax* prepares documents for sending as FAX transmissions from POSTSCRIPT printers with fax capabilities. See the psfax(1) manual page for more information.

*psdraft* adds a draft string to a document. See the psdraft(1) manual page for more information.

*ppanel* a Motif graphical user interface to the TRANSCRIPT programs. See the ppanel(1) manual page for more information.

*pscomm* the program that performs serial communication with the POSTSCRIPT printer. This is normally invisible to the casual user. See the pscomm(8) manual page for a more complete description. *qmscomm* the program that performs network communication with a QMS POSTSCRIPT printer. This is normally invisible to the casual user. See the qmscomm(8) manual page for a more complete description. *fpcomm* the program that performs network communication with a POSTSCRIPT printer connected via a MiLAN FastPort box. This is

normally invisible to the casual user. See the fpcomm(8) manual page for a more complete description. *lpcomm* the program that performs parallel communication with the POSTSCRIPT printer. This is normally invisible to the casual user. See the lpcomm(8) manual page for a more complete description. *capcomm* the program that performs Appletalk communication with the POSTSCRIPT printer. This is normally invisible to the casual user. See the capcomm(8) manual page for a more complete description.

*psdman* the TRANSCRIPT document manager. Invoked by psinterface (System V), or psint.sh (BSD) to process print files. Calls enscript to convert text files to POSTSCRIPT language format, if necessary. psdman is normally invisible to the user and is not intended to be invoked in a command line. Psdman performs document management functions such as page reversal (if desired), font downloading, other resource downloading, and handling of printer-specific features for documents that conform to the Document Structuring Conventions. See the psdman(8) manual page for a more complete description.

**FILES**

XPSLIBDIRX — Most data files for the TRANSCRIPT package can be found in this directory

**SEE ALSO**

enscript(1), ps4014(1), ps630(1), psplot(1), pslpr(1), psroff(1), ptroff(1), psnup(1),psdman(1), psfonts(1), pssymbols(1), pscat(1), psdit(1), pscomm(8), afm(7), postscript(7), capcomm(8), qmscomm(8), fpcomm(8), lpcomm(8), psfax(1), psdraft(1), ppanel(1)

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**NOTES**